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10/586,707	07/10/2008	Benjamin BREITENSTEIN	BS/1-23010/A/PCT	8777
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EXAMINER				
FANG, SHANE				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/586,707

Applicant(s)

BREITENSTEIN ET AL.

Examiner

SHANE FANG

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 10/13/08.

DETAILED ACTION

US 5240642 listed on ISP and IDS is used for 102 rejections.

Claim Objections

Claim 3 is objected to because of the following informalities: “;)” listed by the formula on P. 27 is recommended to be changed to “(I)”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4-5, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Neri et al. (US 5240642) listed on IDS and ISP.

As to claims 1-2, Neri et al. discloses a process of producing dust-free (3:35-52, Ex. 4) granules of polymer additives such as tetrakis[3-(3,5-di-t-butyl-4-hydroxyphenyl)propionyloxymethyl] methane (meets claim 2, when n=4 and m=0, R₃=H) via mixing and extrusion through a circular die of 25mm diameter followed by cooling and cutting into granules (Ex. 1, 4, Table I, 0 minutes). Neri et al. further discloses noodles (strand-like) is produced from extruder; granulation (comminuting) can be carried out via roller compacting (impressing, squeezing) machine with rollers (2:54-68). In light of this, one of ordinary skill in the art would at once envisage selecting a process of producing low-dust polymer additives that meets claims 1-2.

As to claim 4, the heated twin-screw extruder (2:63-68) is considered to be a heatable co-kneader by its broadest reasonable interpretation.

As to claim 5, the twin-screw extrusion die is implied as circular in view of a diameter and resultant noodle shape strand (2:63-68).

As to claim 9, raw materials are fed in solid form (Ex. 1 and 4).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Neri et al. (US 5240642) in view of Neri et al. (US 5844042), both listed on IDS and ISP.

Disclosure of 642' is adequately set forth in ¶3 and is incorporated herein by reference.

642' is silent on additives of the formulae of claim 3 and sieve granulator of claim 10.

As to claim 3, 042' discloses a process of producing granular polymer additives (Abs., Ex.2) such as tetrakis[3-(3,5-di-t-butyl-4-hydroxyphenyl)propionyloxymethyl] methane and octadecyl-3-(3',5'-di-t-butyl-4'-hydroxyphenyl)propionate (meets claim 3), both are equivalent primary antioxidants (2:5-30).

Therefore, as to claim 3, it would have been obvious to one of ordinary skill in the art at the time of the invention to have replaced tetrakis[3-(3,5-di-t-butyl-4-hydroxyphenyl)propionyloxymethyl] methane with octadecyl-3-(3',5'-di-t-butyl-4'-hydroxyphenyl)propionate because of their equivalent functionality as primary antioxidants. These conditions appear to equally apply to both polymer additive productions using similar primary antioxidants. This adaptation would have obviously yielded instantly claimed invention.

As to claim 10, 042' discloses a general comminuting process and condition thereof for preparing additive granules by using powder-sieving machine (sieve granulator) (Ex. 2). In light of this equivalent process disclosed by 042', one of ordinary skill in the art would recognize an appropriate sieve granulator, to develop a process for comminution impressed product mat produced in view of 642'.

5. Claims 6-7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neri et al. (US 5240642) in view of Hovis et al. (US 4457775).

Disclosure of Neri et al. is adequately set forth in ¶2 and is incorporated herein by reference.

Neri et al. is silent on using squeeze rollers having smooth and polished surface followed by shaping rolls having embossing lines of claim 6 and shaping rolls having grooves of claim 7.

Neri et al. disclose using compacting (squeeze) rollers to treat polymer additives after extrusion. One of ordinary skill in the art would obviously recognize to use rollers

with smooth surface for compressing and facilitating the transfer of polymer additives for sequential process.

Hovis et al. discloses a process of preparing porous films with net-like patterns (1:5-15, Fig. 4) comprising polymers and other additives (1:58-68, 2:1-5) by passing extrudate of polymer composition through rolls having engraved (embossing) lines (2:10-25, Fig. 1-3). Hovis et al. further implies said rolls having grooves by showing grooves on the resultant porous films with net-like structures (2:10-25, Fig. 2-4). In light of this and in view of Neri et al., one of ordinary skill in the art would obviously recognize to add engraved roller having grooves to shape sheet like polymer additives after extrusion and roll compacting into porous, net-like patterns, which facilitates the sequential granulation process.

Neri et al. is an analogous art. Hovis et al. is an analogous art, because it pertains to forming porous films with net-like structures that contains polymer additives. It also solves same issue as present invention form shaping porous, net-like patterns by using roller.

Therefore, as to claims 6-7, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the process disclosed by Neri et al., applied the compacting roller with smooth surface, and added engraved roller having grooves in view of Hovis et al., because the resultant process would facilitates materials transfer and forming porous, net-like patterns, which would facilitate the sequential granulation process.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neri et al. (US 5240642) in view of Legge et al. (US 4457775).

Disclosure of Neri et al. is adequately set forth in ¶2 and is incorporated herein by reference.

Neri et al. is silent on using continuous steel belt for cooling and solidification.

Legge et al. discloses solidifying of melting mixture of Mg and forming granules on continuous steel belt with water cooled on its underside (for facilitating cooling). Although Legge et al. fails to disclose polymer additives, Legge et al. is an analogous art, because it solves the same issue of cooling and solidifying granulates as present invention. Instant [0082] also shows the continuous steel belt is coolable by water being sprayed onto its underside.

Therefore, as to claim 8, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the process disclosed by Neri et al. and add continuous steel belt for cooling and solidification in view of Legge et al., because the resultant process would a more efficient cooling and solidification process by using continuous steel belt with water cooled on its underside.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANE FANG whose telephone number is (571)270-7378. The examiner can normally be reached on Mon.-Thurs. 8 a.m. to 6:30 p.m. EST.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sf

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796